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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/849,181	05/20/2004	Masatsugu Yokote	023971-0422	7250
22428	7590	02/03/2006	EXAMINER	
FOLEY AND LARDNER LLP			LUM VANNUCCI, LEE SIN YEE	
SUITE 500			ART UNIT	PAPER NUMBER
3000 K STREET NW			3611	
WASHINGTON, DC 20007			DATE MAILED: 02/03/2006	

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/849,181	YOKOTE, MASATSUGU
	<b>Examiner</b>	<b>Art Unit</b>
	Lee Lum	3611

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*  
**Period for Reply**

**A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) Responsive to communication(s) filed on 21 November 2005.
- 2a) This action is **FINAL**.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) 1-7 and 10 is/are allowed.
- 6) Claim(s) 8,9 and 11 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                    | Paper No(s)/Mail Date. _____.   |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____. | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|   | 6) <input type="checkbox"/> Other: _____.                                   |

## DETAILED ACTION

1. An Amendment was filed 11/21/05 in which Claims 10 and 11 were also added.
2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 8, 9 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Kaufmann et al 6370460.**

Kaufmann discloses a steering apparatus 10 for controlling left and right wheels of a vehicle comprising

Means 16 for controlling individual left and right driving forces of the wheels (c3, ln 40),

Means 52 for calculating a steering reaction force acting on an input device (unidentified in c2, ln 32) in accordance with a difference between the left and right driving forces (c4, ln 14-18, 29-34; with emphasis on "forces are opposite on each tie rod...So to properly sense the composite tie rod force correctly, [a] sum [of] the magnitude of each [by] provid[ing] proper sign information"), and,

Means (c4, ln 41, entire paragraph) for varying a steering reaction force so as to compensate the steering reaction force.

The reference also discloses a process for controlling left and right wheels of a vehicle, the steps derived from the structure/means described above.

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3. The prior art considered pertinent, but not relied upon, includes:  
Plishner 6880654, Dilger et al 6219604, Simard et al 5323866.

4. **Claims 1-7 and 10 are allowable.** Prior art does not disclose a steering apparatus comprising, *inter alia*,

a driving force control section to control driving forces of the left and right wheels,  
a power assistance device for a driver's steering input device,  
a steering mechanism to link the drive wheels with a steering input device,  
a steering reaction force calculation section to calculate a steering reaction force  
in accordance with a difference between the drive wheels, and,  
a steering force correcting section so to compensate the steering reaction force.

5. RESPONSE TO REMARKS

Examiner maintains her previous rejections of Claims 8, 9 and 11. Kaufmann is maintained as clearly disclosing individual motors 16 – “road wheel unit for each steerable wheel”, c3, ln 40, as well as “examining a difference between the left and right driving forces”, as disclosed in c4, second entire paragraph, with emphasis on ln 16-32;

“each of the tie-rod force signals should be associated with an appropriate sign...the same operation may be accomplished by subtraction of each tie-rod force signal...employing an opposite sign sense...The composite force signal is sent to the...control unit 46”.

Therefore, Applicant’s (lengthy) arguments with respect to these issues are clearly groundless. Kaufmann exemplifies a multitude of prior art that provide separate drive units for drive wheels.

Applicant is asked to note allowable subject matter.

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Communication with the Examiner/USPTO

Any inquiry concerning this communication, or others, should be directed to Ms. Lum at 571 272 6649, M-F, 9-5. If she can't be reached, her supervisor, Ms. Lesley Morris, may be reached at 571 272 6651. Our fax number is 571 273 8300.

Information re the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) System as follows: for unpublished apps - private PAIR only, for published apps - private or public PAIR. For more info on PAIR - <http://pair-direct.uspto.gov>. For more info on private PAIR - call the Electronic Business Center at 866 217 9197.

Ms. Lee Lum-Vannucci  
Examiner  
1/30/06



LESLEY D. MORRIS  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3600